

(General Biology)
THE EFFECTIVENESS AND DEVELOPMENT OF
STANDARDS FOR THE BERLESE FUNNEL FOR
ESTIMATING THE NUMBER OF IXODID TICK LARVAE
IN LEAF LITTER

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Abstract

The purpose of this study was to assess the Berlese funnel system as a technique for harvesting larval ticks from leaf litter. Leaf litter was collected from 2 types of forests (predominately deciduous and predominately coniferous) and moisture content was set at three levels: 15%, 35%, and 45% saturation. A predetermined number of live larval *Dermacenter variabilis* ticks was inoculated into leaf litter at 4 levels: 20 ticks, 100 ticks, 1000 ticks, and whole egg masses (~1000-5000 ticks), and processed through the Berlese funnel system. Tick numbers collected were then compared to the number inoculated into the sample.

When high numbers of ticks were added to the leaf litter, vegetation played a minor role in recovery percent variation. Moisture content also had a minor impact on recovery percentages, with the highest average recovery occurring at 35% moisture levels and lowest at 45%. Recovery percentages were lowest overall in the samples inoculated with only 20 ticks but were very similar in the 1000-tick and whole egg mass samples. The overall recovery percentage for predominately deciduous leaf litter was 26%, and the overall recovery percent for predominately coniferous leaf litter was 35%.